

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A gas scrubber comprising:

a combustion chamber;

a wetting chamber placed below said combustion chamber to form a single unit;

a guide plate comprising a funnel-shaped guide arranged between the combustion chamber and the wetting chamber for directing a gas from the combustion chamber into the wetting chamber; and

an injection nozzle ~~having an opening directly coupled to the guide plate, wherein the injection nozzle is~~ adapted to deliver a conditioned gas to a space proximate to the guide plate for minimizing the production and/or accumulation of a powder ~~at an interface between the combustion chamber and the wetting chamber on a surface of the guide plate.~~

2. (Previously Amended) The gas scrubber according to claim 1, wherein the combustion chamber is adapted to burn flammable elements of the gas.

3. (Previously Amended) The gas scrubber according to claim 1, wherein the wetting chamber is adapted to receive water, and wherein said water reacts with water-soluble elements of the gas directed from the combustion chamber.

4. (Previously Amended) The gas scrubber according to claim 1, wherein the wetting chamber comprises:

an angled bottom surface which collects particulates produced in the wetting chamber; and

a water expulsion nozzle having an opening directed to the angled bottom surface for flushing the particulates into a drain.

5. (Previously Amended) The gas scrubber according to claim 1, wherein the wetting chamber comprises:

a plurality of water drenched absorbers across which the gas is directed; and

an exhaust pipe having an opening extending into the wetting chamber for receiving the gas after said gas is passed across at least a portion of the water drenched plurality of absorbers.

6. (Currently Amended) The gas scrubber according to claim 5, wherein the combustion chamber comprises a relatively high temperature gas, ~~wherein that cools to a relatively low temperature gas as it traverses the plurality of water drenched absorbers arranged within the wetting chamber comprises a relatively low temperature gas~~, and wherein the injection nozzle is adapted to prevent the relatively high temperature gas from coming in contact with a substantial portion of the low temperature gas the surface of the guide plate.

7. (Currently Amended) A gas scrubber comprising:

a combustion chamber for eliminating explosive and flammable elements contained in a gas delivered into the combustion chamber from a gas intake;

a water jacket surrounding an outer surface of the gas intake and providing an annular space through which cooling liquid is routed for cooling the gas, thereby preventing the gas from flowing backward from the combustion chamber and into the gas intake at a high temperature;

a wetting chamber placed below said combustion chamber to receive the gas from the combustion chamber and dissolve a water soluble element of the gas; and

a means for minimizing a powder produced at an interface between said combustion chamber and said wetting chamber, wherein said means ~~for minimizing a powder comprises a means is~~ directly coupled to the interface for delivering a conditioned gas to said interface.

8. (Previously Amended) The gas scrubber according to claim 7, wherein said combustion chamber comprises:

a case connected to receive the gas intake and an air intake; and

a heating means placed inside of said case for applying heat to the gas flowing into said case from the gas intake.

9. (Currently Amended) The gas scrubber according to claim 8, wherein said heating means includes:

a heating chamber;

multiple heat exchange units arranged in a pattern of rows inside said heating chamber, wherein each of said heat exchange units comprise an electrical heating element configured inside a ceramic casing; and

a pair of cleaning air nozzles installed on an upper inside surface of said ~~heater~~ heating chamber for periodically delivering air across the heat exchange units to minimize accumulation of powder upon an outer surface of the ceramic casings.

10. (Previously Amended) The gas scrubber according to claim 9, wherein each of the multiple heat exchange units further comprises an electrical insulator positioned between the electrical heating element and the ceramic casing in order to prevent a short circuit between the electrical heating element and the outer surface of the ceramic casing.

11. (Previously Amended) The gas scrubber according to claim 9, wherein each of the multiple heat exchange units comprises an Inconel® tube.

12. (Currently Amended) The gas scrubber according to claim 9, wherein the combustion chamber comprises a nitrogen delivery nozzle having an opening directed into the heating chamber, and wherein the nitrogen delivery nozzle directs nitrogen across ~~an interface proximate to a clamp which connects the~~ multiple heat exchange units to an electrical power conductor.

13. (Previously Amended) The gas scrubber according to claim 9, wherein the multiple heat exchange units comprise a first row and a second row of heat exchange units, and wherein if power to the first row of heat exchange units is terminated, power to the second row of heat exchange units is increased.

14. (Cancelled)

15. (Previously Amended) The gas scrubber according to claim 7, wherein said wetting chamber further includes:

a case comprising the plurality of partitions;

a plurality of absorbers installed in a region interior to the plurality of partitions, wherein said plurality of absorbers are at least partially drenched in water for dissolving water soluble elements contained in the gas as the gas flows through the plurality of absorbers;

a shower nozzle having a water delivery opening directed above each of said plurality of absorbers for drenching said plurality of absorbers; and

an exhaust pipe having an opening extending into the case for expelling a portion of said gas to an ambient outside of said case.

16. (Previously Amended) The gas scrubber according to claim 15, wherein a bottom portion of said case is configured in a v-shape to collect sludge residing in said bottom portion, wherein said sludge comprises particles entrained in water, and wherein said wetting chamber further comprises:

a drain coupled to receive said sludge from said bottom portion; and

a water nozzle coupled to a side of said bottom portion.

17. (Previously Amended) The gas scrubber according to claim 16, further comprising a sensor positioned above the drain to monitor a level of water residing in said bottom portion, wherein said sensor is configured to send a signal to initiate water flow from said water nozzle to push the sludge through the drain when said water level reaches a specified height.

18. (Previously Amended) The gas scrubber according to claim 16, wherein a pressure tube is placed in the space between said case and the drain to maintain a constant pressure within said wetting chamber.

19. (Previously Amended) The gas scrubber according to claim 16, wherein a transparent plate is hinged on one side of said case so that the water level can be checked from an exterior of the gas scrubber.

20. (Original) The gas scrubber according to claim 15, wherein an inner surface of said case and an inner surface of the exhaust pipe are coated with Teflon.

21. (Previously Amended) The gas scrubber according to claim 7, wherein said means for minimizing a powder includes:

a guide plate comprising a funnel-shaped guide configured to direct the gas from said combustion chamber to said wetting chamber; and

an injection nozzle installed on all four sides of said guide plate to inject air or nitrogen to a space proximate to the guide plate for removing the powder from the guide plate through an opening formed by the funnel-shaped guide.

22. (New) The gas scrubber according to claim 12, wherein the nitrogen delivery nozzle is adapted to prevent thermal variation and/or oxidation from occurring in the clamp.